



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of

NAKAMURA et al

Serial No. 09/463,643

Filed: May 1, 2000

Confirmation No.: 6608

Atty. Ref.: 925-178

TC/A.U.: 2815

Examiner: J. Jackson, Jr.

For: NITRIDE SEMICONDUCTOR DEVICE

\* \* \* \* \*

January 25, 2006

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

**INFORMATION DISCLOSURE STATEMENT**

Listed on accompanying Form PTO/SB/08a is information that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith. At least one of the boxes below applies to the present application:

1. ☒ This Information Disclosure Statement is being filed within three months of the U.S. filing date OR **RCE** OR before the mailing date of a first Office Action on the merits. No statement under 37 C.F.R. § 1.97(e) or fee is required.

a. ☐ Contingent Request to Treat Under 37 C.F.R. § 1.97(c)

In the event a first Office Action has been mailed prior to filing of the present Information Disclosure Statement and the Office Action was mailed more than three months since the filing of the application (for regular applications not including CPAs or RCEs), the Office is requested to treat the present paper as a submission under 37 C.F.R. § 1.97(c) and charge the

undersigned's Deposit Account No. 14-1140 for the fee required by 37 C.F.R. § 1.17(p). The present paper is submitted in duplicate for this purpose.

b. ☐ Contingent Request to Treat Under 37 C.F.R. § 1.97(e)(1)

In the event a first Office Action has been mailed prior to the filing of the present Information Disclosure Statement, and the Office Action was mailed more than three months since the filing of the application (for regular applications not including CPAs or RCEs), the Office is requested to treat the present paper as a submission under 37 C.F.R. § 1.97(e)(1) in that the undersigned hereby states that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

b.1. ☐ Patent Term Adjustment

I hereby certify that each item of information was cited in a communication from a foreign patent office in a counterpart application and that this communication was not received by any individual designated in Section 1.56(c) more than 30 days prior to the filing of the Information Disclosure Statement. 37 C.F.R. §1.704(d).

c. ☐ Contingent Request to Treat Under 37 C.F.R. § 1.97(e)(2)

In the event a first Office Action has been mailed prior to the filing of the present Information Disclosure Statement, and the Office Action was mailed more than three months since the filing of the application (for regular applications not including CPAs or RCEs), the Office is requested to treat the present paper as a submission under 37 C.F.R. § 1.97(e)(2) in that the undersigned hereby states that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my

knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

2. ☐ This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.

a. ☐ I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1). Contingent Request Under 37 C.F.R. § 1.97(d). In the event a Notice of Allowance or a Final Rejection has been mailed prior to filing this Information Disclosure Statement, the Office is authorized to treat this as a submission under 37 C.F.R. 1.97(d) and charge the undersigned's Deposit Account No. 14-1140 for the fee required by 37 C.F.R. § 1.17(p). The present paper is submitted in duplicate for this purpose.

a.1. ☐ Patent Term Adjustment

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b. ☐ I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this

Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

c. ☐ Attached is our check in the amount of \$            in payment of the fee under 37 C.F.R. § 1.17(p).

3. ☐ This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee 37 C.F.R. § 1.97(d). It is hereby requested that the Information Disclosure Statement be considered. Attached is our check in the amount of \$            in payment of the fee under 37 C.F.R. § 1.17(i).

a. ☐ I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

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b. ☐ I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

4. ☐ Relevance of the non-English language document(s) is discussed in the present specification.

5. ☐ The document(s) was/were cited in a corresponding foreign application. An English language version of the foreign search report or official action is attached for the Examiner's information. See MPEP § 609.

a. ☐ U.S. Patent No. \_\_\_\_\_ is indicated in the foreign search report or Official Action as being in the same patent family and/or the English-language equivalent of \_\_\_\_\_ listed on the attached foreign search report.

6. ☐ A concise explanation of the relevance of the non-English language document(s) appears below:

7. ☐ Copies of the documents were cited by or submitted to the Office in Application No. \_\_\_\_\_, filed \_\_\_\_\_, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

8. ☐ The publication date (e.g., month or year) of at least one of the listed documents is not available. For each document in this category, the Office is requested to assume that the year of publication of each listed document is earlier than the effective U.S. filing date and/or any foreign priority date.

9. ☐ The publication date of at least one document is listed on the attached PTOPTO/SB/08a based on information presently available to the undersigned. However, each listed publication date should not be construed as an admission that the information was actually published on the date indicated, and the right to challenge each listed publication date is expressly reserved by Applicant(s).

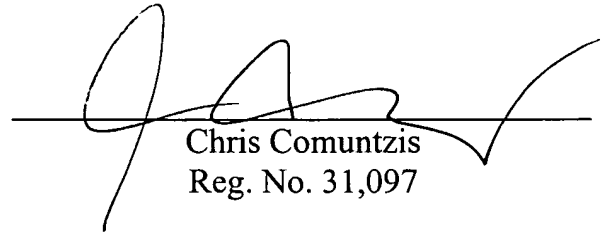
It is respectfully requested that the Examiner initial and return a copy of the enclosed PTOPTO/SB/08a, and to indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 14-1140 referencing docket number 925-178.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By: \_\_\_\_\_



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INFORMATION DISCLOSURE  
CITATION

ATTY. DOCKET NO.

SERIAL NO.

925-178

09/463,643

APPLICANT

NAKAMURA et al

FILING DATE

TC/A.U.

May 1, 2000

2815



(Use several sheets if necessary)

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,172,382	01/2001	NAGAHAMA et al.			

## FOREIGN PATENT DOCUMENTS

DOCUMENT	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
JP 2-288371	11/1990	JAPAN			ABSTRACT
JP 5-110138	04/1993	JAPAN			X
JP 5-183189	07/1993	JAPAN			X
JP 6-021511	01/1994	JAPAN			X
JP 6-268257	09/1994	JAPAN			X
JP 8-228048	09/1996	JAPAN			X
JP 9-148678	06/1997	JAPAN			X

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent pages, etc.)

NAKAMURA et al., "Present Status of InGaN/GaN/AlGaIn-Based Laser Diodes," Proceedings of the Second International Conference on Nitride Semiconductors (INCS '97), 1997, pp. 444-446
SHIBATA et al., "Hybride Vapor Phase Epitaxy Growth of High Quality GaN Bulk Single Crystal by Epitaxial Lateral Overgrowth," Proceedings of the Second International Conference on Nitride Semiconductors (INCS '97), Oct. 27-31, 1997, pp. 154-155
MATSUSHIMA et al., "Sub-micron Fine Structure of GaN by MOVPE Selective Area Growth (SAG) and Buried Structure by Epitaxial Lateral Overgrowth (ELO)," Proceedings of the Second International Conference on Nitride Semiconductors (INCS '97), 1997, pp. 492-493
NAKAMURA et al., "InGaIn-Based Multi-Quantum-Well-Structure Laser Diodes," Jpn. J. Appl. Phys., Vol. 35, Part 2, No. 1B (Jan. 15, 1996), pp. L74-L76
NAKAMURA et al., "InGaIn-Based Multi-Quantum-Well-Structure Laser Diodes With Cleaved Mirror Cavity Facets," Jpn. J. Appl. Phys., Vol. 35, Part 2, No. 2B (Feb. 15, 1996), pp. L217-L220
NAKAMURA et al., "High-Power, Long-Lifetime InGaIn Multi-Quantum-Well-Structure Laser Diodes," Jpn. J. Appl. Phys., Vol. 36, Part 2, No. 8B (Aug. 15, 1997), pp. L1059-L1061
DEGERTEKIN et al., "Single Mode Lamb Wave Excitation in Thin Plates by Hertzian Contacts" Appl. Phys. Lett. 69(2) (July 8, 1996), pp. 146-148
SHAO et al., "Radio-frequency-magnetron-sputtered CdS/CdTe solar cells on soda-lime glass," Appl. Phys. Lett. 69 (20) (Nov. 11, 1996), pp. 3045-3047
NAKAMURA et al., "Room-temperature continuous-wave operation of InGaIn multi-quantum-well structure laser diodes," Appl. Phys. Lett. 69(26) (Dec. 23, 1996), pp. 4056-4058

\*Examiner

Date Considered

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application.